

Application Brief

Freightliner-Western Star Controlling the “Choke Points”

Freightliner-Western Star Trucks, the leading heavy-duty truck manufacturer in North America, through the integration of Entigral Systems' TraxWare® Software Suite and Motorola/Symbol RFID Hardware, was able to deploy a complete parts tracking solution that has proven itself with efficiency, accuracy and the ability to trim labor costs.



Freightliner-Western Star, the best-selling brand of heavy-duty Class 8 trucks in North America, affirmed its commitment to innovation and technology through the deployment of a world-class RFID solution to track inventory replenishment throughout their manufacturing facility located in Portland, Oregon.

Situation

Freightliner-Western Star's management team, headed by Louis Fleischer, Plant Automation – Project Manager, was looking for a way to accurately and automatically track parts movement from inventory to the factory floor.

The process called for parts needed on the production line to be put into inventory totes, placed on mobile tugs (approximately 6-7 per tug) and then transferred onto the Shop Floor. The empty totes are returned to the warehouse in groups of 10 to 12 per tug for replenishment. The Portland facility utilizes approximately 750 totes in 5 different sizes.

The previous method of tracking the parts was labor intensive from a data collection and data input standpoint, as well as, beset with erroneous data.

Process Review

Compsee a leading Solutions Integrator, along with its RFID Solutions Partner, Entigral Systems, were called upon and an engineering study was commissioned for the Portland Plant. The study involved:

- Interviewing management and line personnel
- A review of business processes
- Defining issues and concerns
- Researching the physics of the areas designated as collection points
- Identification of logistical implications regarding the inventory totes and tugs that would carry the inventory
- Exploring methods of interfacing to the company's existing database.

FreightLiner's Portland, OR
Manufacturing Facility



Case Study Profile

Company

Freightliner Trucks
Portland, Oregon

Solution Partners

Solutions Integrator
Compsee Solutions Group
Melbourne, FL

Software
Entigral Systems
High Point, NC

Hardware
Motorola Enterprise Mobility Business
Schaumburg, IL

Benefits

- Increased Inventory Accuracy
- Reduction in Labor Involvement
- Immediacy of Information

Solution

The study identified choke points (i.e. portals) utilized to track transactions in and out of the inventory warehouse. As each tote and tug (identified with RFID tags) moves through a portal, the movement breaks a sensor and triggers a Motorola RFID reader to read any tags within the portal. A transaction record is written to the Freightliner SQL database on the corporate server detailing the location, date and time the transaction occurred and the tote(s) and tug information identified in the portal.

Compsee/Entigral Systems recommended the RFID solution utilizing:

- Entigral Systems' TraxWare® Software Suite -- Modular software products used for RFID applications in Manufacturing & Industrial Control, Asset Tracking and EPC / DoD Compliance opportunities.
- Motorola/Symbol's "State of the Art" RFID hardware solutions incorporating the XR-400 series RFID readers and industrial antennas
- Metal mount RFID tags attached to the tugs. The tags were encoded with the EPC Standards' Global Returnable Asset Identifier (GRAI) format that is intended for assignment to individual objects (i.e. totes and tugs) and is the corporate standard for tote/tug identification.
- A paper RFID 4" x 6" smart label is attached to each tote (one side and one front) to provide as much tag exposure to the scanning portals. The GRAI format was also used.
- Compsee supplied printers with Freightliner software connected to the SQL database to provide transaction "receipts".

Insights

Louis Fleischer, Plant Automation-Project Manager, affirms that the key to this success RFID solution deployment was the development of the business case for Supply Chain Management (SCM) material visibility, coupled with the architecture selection for data integration into the current enterprise system.

Mr. Fleischer's deployment started with a Proof of Concept (POC) design for an RFID Solution solving problems within their existing supply chain rather than propose it as an isolated application.

RFID was introduced as a comprehensive tool effectively integrating with the existing technology used at the Portland plant. Mr. Fleischer challenged his team to look beyond the RFID hype, and understand where RFID could be used effectively in their business environment. It was a team effort that spanned all departments that created a successful deployment.

"At this point in the evolution of data collection technology, a "closed-loop" challenge is where radio frequency identification (RFID) really excels!" quotes L. Allen Bennett, President and CEO of Entigral Systems. "Working with Freightliner-Western Star and its engineers who had this vision, this project was the perfect match for us. When you use the right hardware, with our software, select the right RFID tags and labels to match the environment, and the knowledge to use them correctly, it's easy to solve these types of challenges."



Compsee is a leading full service integrator of wireless and mobile computing and network solutions, Compsee will design, integrate and support an end-to-end wireless solution - from the backbone to the mobile worker. The company's unique blend of best-of-breed hardware and professional services provides solutions for a full range of demanding mobile environments.

Mobility Service and Support: Because today's competitive environment requires companies to rely significantly upon their information-based systems, Compsee Solutions Group provides the Mobility Services to design, develop, implement and support these mission-critical systems. Compsee Solutions Group Mobility Services assure that the correct hardware, software and support plan are put in place to maintain a cost effective and productive system.

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Entigral Systems develops software products that enable reliable Asset Tracking utilizing data collection technology. With a special emphasis based on RFID (Radio Frequency Identification), Entigral Systems applications create value between enterprise systems and the customer's network edge tracking these Assets. Founded in 1984, Entigral Systems provides industry-leading data collection software products and solutions for the manufacturing and process control, asset tracking and EPC/DoD compliance markets.

TraxWare® solves the challenges of RFID systems optimizing RFID interactions and managing the enormous amounts of information these systems generate. TraxWare's data collection methodologies, input techniques and filter algorithms monitor and manage RFID data between corporate IT systems and the edge of enterprise networks. TraxWare also monitors RFID readers and tags and includes implementation tools that ensure successful installation, operation and return on invested capital.

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